



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,747	11/14/2005	Martin Fischer	07781.0216-00	7868
60668 7590 01/23/2009 SAP / FINNEGAN, HENDERSON LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413				
EXAMINER				
LIN, SHEW FEN				
ART UNIT		PAPER NUMBER		
2166				
MAIL DATE		DELIVERY MODE		
01/23/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,747

Applicant(s)

FISCHER ET AL.

Examiner

SHEW-FEN LIN

Art Unit

2166

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/5508)
Paper No(s)/Mail Date 11/12/08, 12/24/08
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

- a. This action is taken in response to Request for Continued Examination filed on 11/12/2008.
- b. Claims 1-12 and 15-39 are pending in this Office Action. Claims 32-39 are new claims. Claims 1, 11-12, and 23 are independent claims.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 25, 2008 has been entered.

Information Disclosure Statement

The Information Disclosure Statement(s) received on November 12, 2008 and December 24, 2008 are in compliance with provisions of 37 CFR 1.97. Accordingly, the Information Disclosure Statement(s) are being considered by the examiner.

Response to Amendments

In view of the amendment to claims 5-6, 18-19, and 27-28, the Examiner withdraws the 112 2nd Rejection stated in the previous office action.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-12 and 15-39 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 16, and 18-40 of copending Application No. **10/526,504**. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are substantially similar in scope and they use the same limitations, i.e., first and second lock objects in application 10/526,504 are obviously used in lieu of transactional type lock object and permanent type lock object.

Claims 1-12 and 15-39 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-13, 15, and 17-46 of copending Application No. **10/526,749**. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are substantially similar in scope and

they use the same limitations, i.e., first ad second lock objects in application 10/526,749 are obviously used in lieu of transactional type lock object and permanent type lock object.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23-31 and 38-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23, recites element “means for selecting... means for assigning...means for storing... means for determining... means for...” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. For example, it is unclear what structure, material, or acts are used to “determining whether the ID is stored successfully in the transactional type lock object”.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claims 24-31 and 38-39 depend from rejected claim 23, comprise the same deficiencies as those claims directly or indirectly by dependence, and are therefore rejected on the same basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 15-31 are rejected under 35 U.S.C. 103(a) being unpatentable over Larsson et al. (US 5,548,750) in view of Tims et al. (US 5,748,870).

As per claim 1, Larsson et al. disclose a method for moving data objects in a computer system from a first storage location to a second storage location, the method comprising:

selecting a data object from the first storage location [Fig. 1, elements A' and C'];

assigning an identifier (ID) to the data objects [The objects are divided into classes after their area of use, and are identified by means of object identities; col 1, lines 37-39];

storing the ID in a transactional type lock object [objects in question have, according to FIG. 6, been backup marked in the LID table of the local dam base; col. 6, lines 45-47];

determining whether the ID is stored successfully in the transactional type lock object, and upon a successful storage, storing the ID in a permanent type lock object, thereby indicating that the data object is stored at the first storage location [col. 6, lines 14-17, Copying objects to the backup area will, however, not start until the local data base handler has made all changes from transactions to be included in the backup visible in the data base; Fig. 9, data object is selected from first storage location with ID assigned, the Examiner interprets this as indicating as stored at the first storage location, furthermore, the backup handler indicates the data object is stored in first storage location, such as A and C];

determining whether the ID is stored successfully in the permanent type lock object, and upon a successful storage, deleting the ID from the transactional type lock object [Fig. 14, col. 2, row 2, dbrecord is removed from the LID table];

storing the data object, at the second storage location and assigning the second storage location to the ID in the permanent type lock object [If it is equal to "include" the object will be copied to the backup area, if it is equal to "exclude" the object will not be copied

but the value of the variable is set to "Include" a preparation for the next backup; col. 8, lines 7-11];

deleting the data object, from the first storage location [Fig. 2, element Throw old object].

Concerning deleting the ID from the permanent type lock object, thereby indicating that the data object is not stored at the first storage location, after the data object has been deleted from the first storage location, Larsson et al. disclose moving data objects in a computer system from a first storage location to a second storage location, described in the previous paragraph. However, Larsson et al. do not explicitly teach deleting the ID from the permanent type lock as an indication of data object removal showing that the data object has been deleted from the first storage location.

Tims et al. teach

deleting the ID from the permanent type lock object [sequences of locks are applied to a primary and a secondary storages during data replication from the primary storage to the secondary in which the primary locks are deleted after data object write activity has been complicated, and thereby indicating that the data object has been replicated from the primary to the secondary storages, see Fig. 1 and associated texts].

Tims et al. and Larsson et al. are analogous are because they are in the same general field of applying locking during transferring data objects between two storage locations.

At the time when the invention was made, it would have been obvious to a person of ordinary skill in the art to combine Tims' teaching on locking unlocking of storage devices with Larsson et al. by adapting the deletion of the locks applied to the storage devices after data objects successfully migrated. The motivation for doing so would have been not only to allow local storage to be freed by

simply deleting the data stored locally and retaining the data stored remotely, but also allow effectively migrating data objects between storage devices via sequential locks and unlocks [abstract, Tims et al.].

As per claim 2, the combined teaching of Tims and Larsson references discloses wherein the data object comprises one or more fields of one or more tables, and wherein the ID comprises one or more key fields of the one or more tables [Tims: col. 5, lines 57-64 where lock table is implemented to tract lock activity of a device in which lock entries are the objects comprising fields of the lock table, and further, Larsson: Fig. 11 where pointers serving as keys to link records between tables].

As per claim 3 Larsson et al. disclose the data object is stored in a file and wherein an assignment of the ID to the file or a name of the file, is stored in the permanent type lock object [Fig. 11, element LID table for Backup handler].

As per claim 4, Larsson et al. disclose the ID is stored in the transactional type lock object after assigning at the ID to the data object [Fig. 11, LID table for Data Base handler].

As per claim 5, Larsson et al. disclose storing the ID in the permanent type lock object comprises storing IDs of other objects in the permanent type lock object before storing the data object at the second storage location [Fig. 8, element 140].

As per claim 6, Larsson et al. disclose checking, before storing the ID in the transactional type lock object or the permanent type lock object, whether the ID has been stored in at least one of the transactional type lock object and the permanent type lock object, and if, the ID has been stored, skipping storing the data object at the second storage location [Fig. 11, Pointers from LID table in Data Base Handler to LID table in Backup handler for Obj. B and Obj. C].

As per claim 7, Larsson et al. disclose checking whether the data object is contained in the second storage location and if the data object is contained, skipping storing the data object at the second storage location [the data base points to the objects B and D in the backup area 4, indicated by arrows 14 and 16; col. 4, lines 45-47].

As per claim 8, Larsson et al. disclose wherein the checking comprises querying at least one of the transactional type lock object and the permanent type lock object [a "BackupSynch" variable which can take the values "Include" or "Exclude" and the value of which is used by the local data base handler and by the local backup handlers to decide whether objects shall be included in a backup or not; col. 3, lines 1-5].

As per claim 9, Larsson et al. disclose determining whether the ID was successfully stored in the transactional type lock object, and upon an unsuccessful storage, checking whether the data object has been stored in the second storage location and if the data object has not been stored, skipping deleting the data object from the first storage location and skipping deleting the

ID from the permanent type lock object [Fig. 3, Backup failed and then led to the stop of operation since not all database handlers had acknowledged to create backups].

As per claim 10, Larsson et al. disclose for use in an enterprise resource planning software [backing up in a distributed real time data base on primary memory in operation, all data in the data base are structured belonging to one of several logic data bases; abstract, lines 1-3].

As per claim 11, is directed to a system claim carrying instructions for performing the method of claim 1 and is rejected along the same rationale.

As per claims 12, 15-22, are directed to a computer readable medium carrying instructions for performing the methods of claims 1-9 respectively and therefore rejected along the same rationale.

As per claims 23-31, are directed to system claims carrying instructions for performing the methods of claims 1-9 respectively and therefore rejected along the same rationale.

Claims 32-39 are rejected under 35 U.S.C. 103(a) being unpatentable over Larsson et al. (US 5,548,750) and Tims et al. (US 5,748,870) and further in view of Chan (US 6,412,034).

As per claim 32, Larsson et al. and Tims et al. disclose storing the ID in the transactional type lock object as noted in claim 1 but do not explicitly disclose indicating that an action is being performed on the data object.

Chan discloses indicating that an action is being performed on the data object [Fig. 2C, Each entry 206 corresponds to a particular resource ("R1, R2 . . . RN") assigned to lock manager LM and specifies a lock status for the particular resource, e.g. "_LOCKED" or "UNLOCKED", a process, if any, currently holding a lock on the particular resource and a transaction with which the process is associated].

Larsson et al. and Chan are analogous are because they are in the same general field of managing locks on transactions performed in a database environment.

At the time when the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the method of Larsson et al. and Tims et al. to specify a lock status for the particular resource. The motivation for doing so would have been that it was known in the art that transaction lock allows only one process at a time to access a particular resource to maintain consistency (col. 1, lines 17-19, Chan).

As per claim 33, Chan discloses the method of claim 32, wherein deleting the ID from the transactional type lock object indicates that the action is not being performed on the data object [Figs. 2B, 2C, UNLOCKED].

As to claims 34-35, are directed to a computer system claim carrying instructions for performing the method of claims 32-33 and therefore rejected along the same rationale.

As to claims 36-37, are directed to a computer readable medium carrying instructions for performing the method of claims 32-33 and therefore rejected along the same rationale.

As to claims 38-39, are directed to a computer system claim carrying instructions for performing the method of claims 32-33 and therefore rejected along the same rationale.

Response to Amendment and Remarks

Applicant's remarks submitted on August 25, 2008 with respect to claims 1-12 and 15-31 have been fully considered but are not deemed persuasive, please see discussions below.

III. Rejection of Claims 1-12 and 15-31 Under 35 U.S.C. § 103(a)

Applicants argue that Independent claim 1 recites a method for moving data objects comprising, for example, "storing the ID in a permanent type lock object, thereby indicating that the data object is stored at the first storage location" and "deleting the ID from the permanent type lock object, thereby indicating that the data object is not stored at the first storage location. However, Larsson and Cabrera do not make such indications by "storing the ID in a permanent type lock object" and "deleting the ID from the permanent type lock object," as recited in claim 1. In other words, neither Larsson nor Cabrera, nor their combination, teaches or suggests that storing and deleting an ID from a lock object respectively indicate whether a data object is or is not stored at a storage location.

For example, the Examiner alleges that, in Larsson, selecting a data object from a storage location indicates that the data object is stored at the storage location. Final Office Action at 5. However, claim 1 recites "storing the ID in a permanent type lock object.., indicat[es] that the data object is stored at the first storage location." Selecting a data object in Larsson cannot correspond to "storing the ID in a permanent type lock object," as recited in claim 1. Therefore, Larsson fails to

teach or suggest an indication that the data object is stored at the first storage location as that claimed. Accordingly, Larsson fails to teach or suggest "storing the ID in a permanent type lock object, thereby indicating that the data object is stored at the first storage location," as recited in claim 1.

With respect to the above argument that Larsson fails to teach or suggest an indication that the data object is stored at the first storage location as that claimed, Examiner respectfully submits that at Fig. 9, data object is selected from first storage location with ID assigned and as pointers pointing to the storage of the objects is an indication indicating the object are stored at the first storage location.

Furthermore, even if selecting the data object in Larsson could correspond to the claimed "storing the ID in a permanent type lock object," as the Examiner alleges, Larsson fails to disclose that deselecting the data object from the storage location indicates that the data object is not stored in the first storage location. Accordingly, Larsson fails to teach or suggest "deleting the ID from the permanent type lock object, thereby indicating that the data object is not stored at the first storage location," as recited in claim 1.

Moreover, the Examiner alleges that "the backup handler [of Larsson] indicates the data object is stored in first storage location." Final Office Action at 5. Larsson discloses that "backup handler instructs the local data base handlers to set a backup flag which informs the local data base handlers that backup will be started." Larsson, col. 2, lines 57-60. "[T]he central backup handlers instruct all local backup handlers..., to begin copying objects to be included in the backup to

the backup area." Id., col. 3, lines 44-48. However, Larsson fails to disclose or suggest that the backup handlers indicate whether the data object is stored in the first storage location, and the Examiner fails to cite to any portion of Larsson for such a disclosure.

With respect to the above argument that the backup handlers of Larsson fails to teach or suggest an indication that the data object is stored at the first storage location, Examiner respectfully submits that the backup handlers determine the backup should start and, the indication of data objects stored at the first storage location has been provided by data objects pointers as described immediately previously.

Cabrera fails to cure the deficiencies of Larsson. Cabrera discloses that the "[s]tep... of recording the migration can be accomplished in any manner sufficient to indicate... that the data has now been fully migrated to remote storage." Cabrera, col. 11, line 67 to col. 12, line 3 (emphasis added). However, Cabrera fails to disclose that "storing the ID in a permanent type lock object" and "deleting the ID from the permanent type lock object" respectively indicate whether the data has or has not been fully migrated. Cabrera merely states "any manner" but fails to disclose the same manner of indication as claimed. Therefore, Cabrera fails to teach or suggest "storing the ID in a permanent type lock object, thereby indicating that the data object is stored at the first storage location" and "deleting the ID from the permanent type lock object, thereby indicating that the data object is not stored at the first storage location," as recited in claim 1.

With respect to the above argument that Cabrera fails to teach "deleting the ID from the permanent type lock object", Examiner has respectfully introduced Tims for teaching sequences of locks are applied to a primary and a secondary storages during data replication from the primary storage to the secondary in which the primary locks are deleted after data object write activity has been complicated, and thereby indicating that the data object has been replicated from the primary to the secondary storages.

For at least the foregoing reasons, the scope and content of the prior art have not been properly determined, and the differences between the prior art and claim 1 have not been properly ascertained. Accordingly, no reason has been clearly articulated as to why the prior art would have rendered claim 1 obvious to one of ordinary skill in the art. Therefore, a prima facie case of obviousness has not been established with respect to claim 1.

Furthermore, independent claims 11, 12, and 23, although different in scope from claim 1, are allowable for at least reasons similar to those given for claim 1. Additionally, dependent claims 2-10, 15-22, and 24-31 are allowable at least due to their dependence from allowable base claims 1, 12, and 23. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 1-12 and 15-31 under 35 U.S.C. § 103(a).

With respect to the above argument concerning rejections to claims 11, 12, and 23, and 2-10, 15-22, and 24-31, Examiner respectfully maintains the rejections as described previously based on Larsson or Larsson in view of Tims.

IV. Rejection of Claims 32-39 Under 35 U.S.C. § 103(a)

Applicants respectfully traverse the rejection of claims 32-39 under 35 U.S.C. § 103(a) as being unpatentable over Larsson in view of Cabrera and Chan. A prima facie case of obviousness has not been established.

Claims 32-39 depend from respective independent claims 1, 11, 12, and 23, and thus require all the elements thereof. As established above, Larsson and Cabrera fail to render obvious claims 1, 11, 12, and 23. Regardless of whether the Examiner's characterization of Chan in the Final Office Action is correct, Chan fails to cure the above-noted deficiencies of Larsson and Cabrera. Therefore, Larsson, Cabrera, and Chan, individually or in combination, fail to establish a prima facie case of obviousness with respect to claims 32-39. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of claims 32-39 under 35 U.S.C. § 103(a).

With respect to the above argument concerning rejections to claims 32-39, Examiner respectfully maintains the rejections as described previously based on Larsson in view of Tims and further in view of Chan.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shew-Fen Lin /S. L./
Examiner, Art Unit 2166
January 16, 2009

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166